

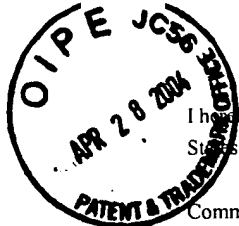


| | | | |
|--|--|------------------------|-----------------|
| TRANSMITTAL FORM <i>(to be used for all correspondence after initial filing)</i> | | Application Number | 10/791,633 |
| | | Filing Date | March 1, 2004 |
| | | First Named Inventor | Roth, Richard |
| | | Art Unit | Not yet known |
| | | Examiner Name | Not yet known |
| Total Number of Pages in This Submission | | Attorney Docket Number | 019930-002510US |

| ENCLOSURES (Check all that apply) | | |
|--|--|--|
| <input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input checked="" type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/Incomplete Application <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53 | <input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) | <input type="checkbox"/> After Allowance Communication to Group <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): Return Postcard |
| | Remarks | The Commissioner is authorized to charge any additional fees to Deposit Account 20-1430. |

| SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT | |
|--|--|
| Firm or Individual | Townsend and Townsend and Crew LLP Patrick M. Boucher Reg. No. 44,037 |
| Signature | |
| Date | April 26, 2004 |

| CERTIFICATE OF TRANSMISSION/MAILING | | | |
|---|-------------------|------|----------------|
| I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below. | | | |
| Typed or printed name | Nicole M. Wartell | | |
| Signature | | Date | April 26, 2004 |



I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PATENT
Attorney Docket No.: 019930-002510US
Client Reference No.: A1294C1

On APRIL 26, 2004

TOWNSEND and TOWNSEND and CREW LLP

By: Nicole M. Wartell

Nicole M. Wartell

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Bevan Staple et al.

Application No.: 10/791,633

Filed: 03/01/2004

For: MEMS-BASED
NONCONTACTING FREE-SPACE
OPTICAL SWITCH

Examiner: Not yet known

Art Unit: Not yet known

INFORMATION DISCLOSURE
STATEMENT UNDER 37 CFR §1.97 and
§1.98

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

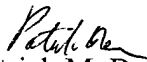
The references cited on the attached form are being called to the attention of the Examiner. This application is a continuation application of and relies on U.S. Appl. No. 09/899,002 filed July 3, 2001 (the "parent application", which has issued as US-6,701,037 B2) for an effective filing date under 35 U.S.C. § 120. All of the references were submitted to the U.S. Patent and Trademark Office in the parent application. Therefore, pursuant to 37 CFR § 1.98(d), copies of the references are not enclosed. It is respectfully requested that the cited references be expressly considered during the prosecution of this application, and the references

be made of record therein and appear among the "references cited" on any patent to issue therefrom.

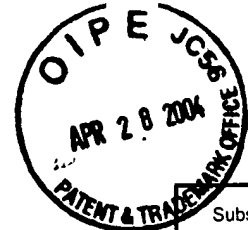
As provided for by 37 CFR 1.97(g) and (h), no inference should be made that the information and references cited are prior art merely because they are in this statement and no representation is being made that a search has been conducted or that this statement encompasses all the possible relevant information.

Applicant believes that no fee is required for submission of this statement. However, if a fee is required, the Commissioner is authorized to deduct such fee from the undersigned's Deposit Account No. 20-1430. Please deduct any additional fees from, or credit any overpayment to, the above-noted Deposit Account.

Respectfully submitted,


Patrick M. Boucher
Reg. No. 44,037

TOWNSEND and TOWNSEND and CREW LLP
Two Embarcadero Center, Eighth Floor
San Francisco, California 94111-3834
Tel: 303-571-4000
Fax: 303-571-4321
PMB:nmw
60155464 v1



| | | | | | |
|--|---------------|----|--------------------------|------------------------|-----------------|
| Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary) | | | Complete if Known | | |
| | | | Application Number | 10/791,633 | |
| | | | Filing Date | 03/01/2004 | |
| | | | First Named Inventor | Maalouf, Khalil J. | |
| | | | Art Unit | Not yet known | |
| Examiner Name | Not yet known | | | | |
| Sheet | 1 | of | 3 | Attorney Docket Number | 019930-002510US |

| U.S. PATENT DOCUMENTS+ | | | | | |
|------------------------|-----------------------|--|--------------------------------|--|---|
| Examiner Initials* | Cite No. ¹ | Document Number | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
| | | Number Kind Code ² (if known) | | | |
| | A1 | US-5,212,582 | 05-18-1993 | Nelson | |
| | A2 | US-5,414,540 | 05-09-1995 | Patel et al. | |
| | A3 | US-5,600,383 | 02-04-1997 | Hornbeck | |
| | A4 | US-5,917,625 | 06-29-1999 | Ogusu et al. | |
| | A5 | US-5,960,133 | 09-28-1999 | Tomlinson | |
| | A6 | US-5,969,848 | 10-19-1999 | Lee et al. | |
| | A7 | US-5,999,672 | 12-07-1999 | Hunter et al. | |
| | A8 | US-6,028,689 | 02-22-2000 | Michalicek et al. | |
| | A9 | US-6,040,935 | 03-21-2000 | Michalicek | |
| | A10 | US-6,097,519 | 08-01-2000 | Ford | |
| | A11 | US-6,097,859 | 08-01-2000 | Solgaard | |
| | A12 | US-6,108,471 | 08-22-2000 | Zhang et al. | |
| | A13 | US-6,128,122 | 10-03-2000 | Drake et al. | |
| | A14 | US-6,307,657 B1 | 10-23-2001 | Ford | |
| | A15 | US-2002/0135850 | 09-26-2002 | Hagelin et al. | |
| | A16 | US-6,480,320 B2 | 11-12-2002 | Nasiri | |
| | A17 | US-6,501,877 | 12-31-2002 | Weverka, et al. | |
| | A18 | US-6,541,831 | 04-01-2003 | Lee et al. | |
| | A19 | US-6,597,048 | 07-22-2003 | Kan | |

| FOREIGN PATENT DOCUMENTS | | | | | | | | |
|--------------------------|-----------------------|---------------------------|---------------------|-----------------------------------|--------------------------------|--|--|--------------------------|
| Examiner Initials* | Cite No. ¹ | Foreign Patent Document | | | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear | T ⁶ |
| | | Country Code ³ | Number ⁴ | Kind Code ⁵ (if known) | | | | |
| | B1 | | | | | | | <input type="checkbox"/> |
| | B2 | | | | | | | <input type="checkbox"/> |
| | B3 | | | | | | | <input type="checkbox"/> |

| | | | |
|--------------------|--|-----------------|--|
| Examiner Signature | | Date Considered | |
|--------------------|--|-----------------|--|

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² Kind Codes of U.S. Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

60155464 v1

| | | | | | |
|--|---|----|--------------------------|------------------------|-----------------|
| Substitute for form 1449B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary) | | | Complete if Known | | |
| | | | Application Number | 10/791,633 | |
| | | | Filing Date | 03/01/2004 | |
| | | | First Named Inventor | Maalouf, Khalil J. | |
| | | | Art Unit | Not yet known | |
| | | | Examiner Name | Not yet known | |
| Sheet | 2 | of | 3 | Attorney Docket Number | 019930-002510US |

| NON PATENT LITERATURE DOCUMENTS | | | |
|---------------------------------|-----------------------|---|----------------|
| Examiner Initials * | Cite No. ¹ | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T ² |
| | C1 | Akiyama, T. et al.; "Controlled Stepwise Motion in Polysilicon Microstructures," Journal of Microelectromechanical Systems, Vol. 2, No. 3, September 1993; pp.106-110 | |
| | C2 | Andrew, et al., "Electrostatic Model for an Asymmetric Combedrive," Journal of Microelectromechanical Systems, Vol. 9, No. 1, March 2000, pp. 126-135 | |
| | C3 | Ashruf, C.M.A. et al., "Galvanic porous silicon formation without external contacts," Sensors and Actuators 74 (1999) pp. 118-122 | |
| | C4 | Bean, Kenneth et al., "Anisotropic Etching of Silicon," IEEE Transactions on Electron Devices, Vol. Ed-25, No. 10, October 1978 | |
| | C5 | Ciarlo, Dino R. "A latching accelerometer fabricated by the anisotropic etching of (110) oriented silicon wafers," Lawrence Livermore Nat'l Laboratory, March 1, 1992 | |
| | C6 | Dewa, A.S. et al., "Development of a Silicon Two-Axis Micromirror for an Optical CrossConnect," Solid State Sensors and Actuators Workshop, Hilton Head, South Carolina, pp. 93-96 | |
| | C7 | Ford, Joseph et al., "Wavelength Add Drop Switching Using Tilting Micromirrors," Journal of Lightwave Technology, Vol. 17, No. 5, May 1999 | |
| | C8 | Grade, J. et al., "A Large-Deflection Electrostatic Actuator for Optical Switching Applications, Solid-State Sensor and Actuator Workshop, Hilton Head Island, South Carolina, June 4-8, 2000; pp. 97-100 | |
| | C9 | Kaajakari, V. et al.; "Ultrasonic Actuation for MEMS Dormancy-Related Stiction Reduction," In MEMS Reliability for Critical Applications, Proceedings of SAPIE Vol. 4180 (2000); pp. 60-65 | |
| | C10 | Keller, C. Dissertation entitled: Microfabricated Silicon High Aspect Ratio Flexures for In-Plane Motion; Fall 1998 | |
| | C11 | Koch, T.L. et al., "Anisotropically etched deep gratings for InP/InGaAsP optical devices," J.App. Phys. 62 (8), 15 October 1987 | |
| | C12 | Muller, L. Dissertation entitled: Gimbaled Electrostatic Microactuators with Embedded Interconnects; Spring 2000 | |
| | C13 | Nishi, I. et al., "Broad-Passband-Width Optical Filter for Multi-Demultiplexer Using a Diffraction Grating and a Retroreflector Prism," Electronics Letters, Vol. 21, No. 10, 9 th May 1985 | |
| | C14 | Phillippe, P. et al., "Wavelength demultiplexer: using echelette gratings on silicon substrate," Applied Optics, Vol. 24, No. 7, 1 April 1985 | |
| | C15 | Rallison, R.D. "Dense Wavelength Division Multiplexing (DWDM) and the Dickson Grating" White Paper, Jan 6, 2001. | |
| | C16 | Schilling, M. et al., "Deformation-free overgrowth of reactive ion beam etched submicron structures in InP by liquid phase epitaxy," Appl. Phys. Lett. 49 (12), 22 September 1986 | |

| | | | |
|--------------------|--|-----------------|--|
| Examiner Signature | | Date Considered | |
|--------------------|--|-----------------|--|

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

| | | | | | |
|---|---|----|--------------------------|------------------------|-----------------|
| Substitute for form 1449B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i> | | | Complete if Known | | |
| | | | Application Number | 10/791,633 | |
| | | | Filing Date | 03/01/2004 | |
| | | | First Named Inventor | Maalouf, Khalil J. | |
| | | | Art Unit | Not yet known | |
| | | | Examiner Name | Not yet known | |
| Sheet | 3 | of | 3 | Attorney Docket Number | 019930-002510US |

| NON PATENT LITERATURE DOCUMENTS | | | |
|---------------------------------|--------------------------|---|----------------|
| Examiner Initials * | Cite No. ¹ | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T ² |
| | C17 | Sun, Z.J. et al., Demultiplexer with 120 channels and 0.29-nm Channel Spacing," IEEE Photonics Technology Letters, Vol. 10, No. 1, January 1998 | |
| | C18 | Tang, W. et al., "Electrostatically Balanced Comb Drive for Controlled Levitation," Reprinted from Technical Digest IEEE Solid-State Sensor and Actuator Workshop, June 1990; pp. 198-202 | |
| | C19 | Torcheux, L. et al., "Electrochemical Coupling Effects on the Corrosion of Silicon Samples in HF Solutions," J. Electrochem.Soc., Vol. 142, No. 6, June 1995 | |
| | C20 | VanKessel, P. et al., "A MEMS-Based Projection Display," Proceedings of the IEEE, Vol. 86, No. 8, August 1998; pp. 1687-1704 | |

| | | | |
|-----------------------|--|--------------------|--|
| Examiner Signature | | Date Considered | |
|-----------------------|--|--------------------|--|

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.